

under certain conditions, but that they are of little significance as supporting structures in the two *Tropicorbis* species.

#### SUMMARY

A total of 104 *A. glabratus* in matched pairs (lamellate and non-lamellate) were subjected to enough force to crush them. The lamellate snails sustained an average of approximately 4 times as much force as the non-lamellate. Tests with *T. obstructus* and *T. albicans* suggested that lamellae increased only slightly the strength of the shells in these species. Lamellae are considered to have survival value as supporting structures in *A. glabratus* under certain conditions.

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## A NEW SPECIES OF CYAMIOMACTRA (PELECYPODA) FROM THE ROSS SEA, ANTARCTICA

By DAVID NICOL

Department of Geology, Southern Illinois University, Carbondale

Cyamiidae, *Cyamiomactra* Bernard, 1897

Type species (monotypy): *Cyamiomactra problematica* Bernard, 1897, pp. 310-311.

CYAMIOMACTRA ROBUSTA Nicol, new species. Pl. 6, figs. 1-3

*Type repository*: Division of Mollusks, U. S. National Museum. Holotype cat. no. 653063; paratypes cat. nos. 612811 and 612766.

*Description*: Shell thin, porcelaneous, somewhat chalky on the umbonal area; periostracum thin, glossy, light brown; ornamentation consists of fine concentric striae and prominent concentric ridges which may represent periodic growth cessation, number varying from 5 to 9 and commonly more closely spaced toward the ventral margin; a radial keel or rounded carina present on posterior quarter of the shell; prodissoconch not preserved; equivolume; without a gape; valve outline subrectangular, anterior end rounded and somewhat pointed, posterior end subtruncate; length always greater than height; largest specimen is 9.7 mm. long, 8.7 mm. high, 6.9 mm. in convexity of both valves; smallest

specimen (holotype) is 8.8 mm. long, 6.6 mm. high, and 6.2 mm. for convexity of both valves; ratio of convexity to height for three specimens is 0.83; ratio of length to height for 3 specimens is 1.20; beaks small, orthogyrate; interior margins of shell smooth; concentric ridges on exterior of the shell correspond to concentric grooves on the interior of the shell; pallial line and adductor muscle scars not observable on these thin shells; ligament and hinge teeth typically cyamiid; lateral teeth absent; cardinal teeth 2 in the right valve and 3 in the left valve; central tooth 2 in left valve shaped like an inverted V, tooth 4a short and narrow and slopes antero-ventrally, tooth 4b is longer, narrow, and slopes postero-ventrally; teeth 3a and 3b in right valve are large, triangular, and bifid; ligament completely internal, narrow, sloping postero-ventrally, located in a narrow groove on the hinge plate behind the cardinal teeth in each valve; hinge plate narrow and rather short.

*Comparisons:* *Cyamiomacra robusta* appears to be most closely related to *C. laminifera* (Lamy), but it differs from the latter species by being more convex and by having well-developed concentric ridges on the exterior of the shell. *Cyamium exasperatum* Preston from the Falkland Islands superficially resembles *Cyamiomacra robusta*, but it is a much smaller shell and has only 2 cardinal teeth in the left valve.

*Habitat:* *Cyamiomacra robusta* was collected at two stations, one of which was 321 meters in depth and the other 640 meters in depth. The bottom temperature at the deeper station was  $-1.86^{\circ}$  C. The type of bottom described from the shallower collecting station was coarse glacial marine till.

*Geographic distribution:* The holotype and one paratype with both valves came from  $77^{\circ} 38' \text{ S.}, 163^{\circ} 11' \text{ W.}$ ; Kainan Bay, Ross Sea. One right valve was collected at  $77^{\circ} 26' \text{ S.}, 169^{\circ} 30' \text{ E.}$ ; McMurdo Sound, Ross Sea.

*Cyamiomacra robusta* was collected only by the Deepfreeze I Expedition during January and February, 1956. It appears to be quite rare and may be endemic to the Ross Sea region. It may also be rather restricted in its distribution as to depth and kind of substrate upon which it lives.

*Cyamiomacra robusta* is one of the largest members of the Cyamiidae that the writer has seen. The largest of the 3 specimens is 9.7 mm. long. The other cyamiid species that attains at least this length is *Cyamiomacra laminifera* (Lamy) which also lives in the Antarctic region. Cyamiid species from warmer waters

in the southern hemisphere commonly attain no more than 5 mm. in length. This is another example of a family of pelecypods that has one or more of its largest species living in the coldest water. Two more cases of this phenomenon among species of Antarctic pelecypods will help to prove this point. The largest living species of limopsid is *Limopsis (Felicia) jousseaumi* (Mabille and Rochebrune) from the Antarctic region. However, other Antarctic species of limopsids are small. *Laternula elliptica* (King and Broderip), an Antarctic species, is the largest living laternulid with the possible exception of specimens of *Offadesma angasi* (Crosse and Fischer) from Stewart Island which may be as large. On the other hand, the largest pelecypods, like *Tridacna*, are confined to warm water. This trend among pelecypods to have the largest species of a family or a genus living in the coldest water seems to be so common that it could be considered an ecological or geographical rule.

Mr. W. J. Byas, museum specialist in the Division of Mollusks at the U. S. National Museum, skillfully opened and separated the 2 valves of the holotype so that the hinge area could be described and then later repaired the left valve of the holotype after it was broken by the writer.

Mr. David H. Massie of the U. S. Geological Survey made the photographs of *Cyamiomactra robusta*.

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#### LITERATURE CITED

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### AMERICAN MALACOLOGICAL UNION, INC.

By MARGARET C. TESKEY, Secretary

The 30th annual meeting of the American Malacological Union was held in New Orleans, July 21-24, 1964. One hundred registered guests enjoyed a most unusual program, minded the heat not at all and with a moonlight boat ride on the mighty Mississippi as the final feature, voted the 1964 meeting an unqualified success.

Dr. Dee Dundee and Dr. Harold Dundee planned and arranged for the 4 day convention while John Q. Burch of Los